



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

MAHE black
D206-642-351
Job Sheet 189430

Part No: D206-642-351

Job Qty: 1 pcs

Part Name: Replacement Skidtube, Low & High Gear, Run-on Landing Wearplates Fits LH or RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/24/19

Job Tracking No:

Due Date: 3/1/19

Created By: Jesse White

Type: SOLD

Description:

Note: DWG D4361-041 REV A, IIN-D206-642 REV Q SHEETS 29-30 IPP REV:A NEW ISSUE 12-07-09 JLM
VERIFIED BY:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Skidtubes - 1	1 pcs	3/1/19		0.00	3.26	Skidtubes - 1		
							Skidtubes - 2		
							Skidtubes - 3		
							Skidtubes - 4		TF
							Skidtubes - 5		BL
115	QC 5	1 pcs	3/1/19		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 38		
							QC 5 - 42		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		PD 19.0 03
							QC 5 - 50		
							QC 5 - 30		
120	Handfinish - 1-1 Chemical- B4B	1 pcs	3/1/19		0.00	0.83	Handfinish - 1 - 1 - B4B		
							Handfinish - 1 - 2 - B4B		
							Handfinish - 1 - 3 - B4B		
							Handfinish - 1 - 4 - B4B		
							Handfinish - 1 - 5 - B4B		
							Handfinish - 1 - 6 - B4B		
							Handfinish - 1 - 7 - B4B		

Black Sand



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CANADA
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Container No: S151375



Part: D206-642-351

Job No: 189430

Serial No/Batch: S151375

Revision:

Inspector:

Exp Date:

Instructions:

Date: 02/06/19

				Handfinish - 1 - 8 - B4B	
				Handfinish - 1 - 9 - B4B	
				Handfinish - 1 - 10 - B4B	D.R 19/2/12
				Handfinish - 1 - 11 - B4B	
				Handfinish - 1 - 12 - B4B	
				Handfinish - 1 - 13 - B4B	
				Handfinish - 1 - 14 - B4B	
				Handfinish - 1 - 15 - B4B	
				Handfinish - 1 - 16 - B4B	
				Handfinish - 1 - 17 - B4B	
				Handfinish - 1 - 18 - B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
				Handfinish - 1 - 21 - B4B	
				Handfinish - 1 - 22 - B4B	
125	QC 7	1 pcs	3/1/19	0.00 0.00	QC 7 - 10
					QC 7 - 13
					QC 7 - 14
					QC 7 - 15
					QC 7 - 17
					QC 7 - 18
					QC 7 - 19
					QC 7 - 2
					QC 7 - 28
					QC 7 - 3
					QC 7 - 30
					QC 7 - 34
					QC 7 - 36
					QC 7 - 37
					QC 7 - 38
					QC 7 - 41
					QC 7 - 47
					QC 7 - 48
					QC 7 - 51
					QC 7 - 58
					QC 7 - 59
					QC 7 - 6
					QC 7 - 60
					QC 7 - 9
					QC 7 - 68
					QC 7 - 50
					QC 7 - 67
130	Skidtubes - 2 - B4B	1 pcs	3/1/19	0.00 3.26	Skidtubes - 1 - B4B
					Skidtubes - 2 - B4B
					Skidtubes - 3 - B4B
					Skidtubes - 4 - B4B
					Skidtubes - 5 - B4B
140	QC 5	1 pcs	3/1/19	0.00 0.00	QC 5 - 10

				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	BE
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 38	
				QC 5 - 42	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	
				QC 5 - 9	
				QC 5 - 50	
				QC 5 - 30	
150 Skidtubes - 2 - B4B	1 pcs	3/1/19	0.00 3.26	Skidtubes - 1 - B4B	
				Skidtubes - 2 - B4B	
				Skidtubes - 3 - B4B	mba
				Skidtubes - 4 - B4B	
				Skidtubes - 5 - B4B	BE
170 QC 10	1 pcs	3/1/19	0.00 0.00	QC 10 - 10	
				QC 10 - 18	
				QC 10 - 24	
				QC 10 - 38	
				QC 10 - 43	
				QC 10 - 50	
				QC 10 - 58	
				QC 10 - 9	PD 19-03-06
180 QC 5	1 pcs	3/1/19	0.00 0.00	QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 38	
				QC 5 - 42	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	
				QC 5 - 9	PD 19-03-06
				QC 5 - 50	
				QC 5 - 30	
190 Handfinish - 2-1 Pressure- B4B	1 pcs	3/1/19	0.00 0.83	Handfinish - 2 - 1 - B4B	
				Handfinish - 2 - 2 - B4B	D.R 19/03/07
200 Powdercoat - 1 White GI(A)- B4B	1 pcs	3/1/19	0.00 0.23	Powdercoat - 1 - B4B	
				Powdercoat - 2 - B4B	BEB 19-03-07
				Powdercoat - 3 - B4B	
				Powdercoat - 4 - B4B	
210 QC 3	1 pcs	3/1/19	0.00 0.00	QC 3 - 10	
				QC 3 - 13	
				QC 3 - 15	KL 19-3-7
				QC 3 - 17	
				QC 3 - 18	

					QC 3 - 2	
					QC 3 - 26	
					QC 3 - 28	
					QC 3 - 3	
					QC 3 - 30	
					QC 3 - 34	
					QC 3 - 36	
					QC 3 - 38	
					QC 3 - 41	
					QC 3 - 51	
					QC 3 - 58	
					QC 3 - 59	
					QC 3 - 6	
					QC 3 - 68	
					QC 3 - 9	
220	Handfinish - 4-1-Assembly-B4B	1 pcs	3/1/19	0.00 0.83	Handfinish - 4 - 1 - B4B	AL 18-3-7
					Handfinish - 4 - 10 - B4B	
					Handfinish - 4 - 11 - B4B	
					Handfinish - 4 - 12 - B4B	
					Handfinish - 4 - 13 - B4B	
					Handfinish - 4 - 14 - B4B	
					Handfinish - 4 - 15 - B4B	
					Handfinish - 4 - 2 - B4B	
					Handfinish - 4 - 3 - B4B	
					Handfinish - 4 - 4 - B4B	
					Handfinish - 4 - 5 - B4B	
					Handfinish - 4 - 6 - B4B	
					Handfinish - 4 - 7 - B4B	
					Handfinish - 4 - 8 - B4B	
					Handfinish - 4 - 9 - B4B	
230	QC 3	1 pcs	3/1/19	0.00 0.00	QC 3 - 10	
					QC 3 - 13	
					QC 3 - 15	
					QC 3 - 17	
					QC 3 - 18	
					QC 3 - 2	
					QC 3 - 26	
					QC 3 - 28	
					QC 3 - 3	
					QC 3 - 30	
					QC 3 - 34	
					QC 3 - 36	
					QC 3 - 38	
					QC 3 - 41	
					QC 3 - 51	
					QC 3 - 58	
					QC 3 - 59	
					QC 3 - 6	
					QC 3 - 68	
					QC 3 - 9	
240	QC 5	1 pcs	3/1/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	

DAS
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				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 38	
				QC 5 - 42	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	
				QC 5 - 9	
				QC 5 - 50	
				QC 5 - 30	
245	DC - 1 - B4B	1	3/1/19	0.00 0.00	DC - 1 - B4B
		pcs			DC - 2 - B4B
250	Packaging 3-1 - Stock - B4B	1	3/1/19	0.00 0.00	Packaging 3 - 1 - B4B
		pcs			Packaging 3 - 2 - B4B
					Packaging 3 - 3 - B4B
					Packaging 3 - 4 - B4B
					Packaging 3 - 5 - B4B
					Packaging 3 - 6 - B4B
					Packaging 3 - 7 - B4B
					Packaging 3 - 8 - B4B
					Packaging 3 - 9 - B4B
					Packaging 3 - 10 - B4B
					Packaging 3 - 11 - B4B
					Packaging 3 - 12 - B4B
					Packaging 3 - 13 - B4B
					Packaging 3 - 14 - B4B
					Packaging 3 - 15 - B4B
					Packaging 3 - 16 - B4B
					Packaging 3 - 17 - B4B
					Packaging 3 - 18 - B4B
					Packaging 3 - 19 - B4B
					Packaging 3 - 20 - B4B
					Packaging 3 - 21 - B4B
					Packaging 3 - 22 - B4B
					Packaging 3 - 23 - B4B
					Packaging 3 - 24 - B4B
					Packaging 3 - 25 - B4B
					Packaging 3 - 26 - B4B
					Packaging 3 - 27 - B4B
					Packaging 3 - 28 - B4B
					Packaging 3 - 29 - B4B
					Packaging 3 - 30 - B4B
					Packaging 3 - 31 - B4B
					Packaging 3 - 32 - B4B
					Packaging 3 - 33 - B4B
					Packaging 3 - 34 - B4B
					Packaging 3 - 35 - B4B
					Packaging 3 - 36 - B4B
260	QC 21 - FG	1	3/1/19	0.00 0.00	QC 21 - FG - 21
		pcs			QC 21 - FG - 70

DAS
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MAR 13 2019

DAS
MAR 13 2019 70
9-89

Part Op 110 - Skidtubes-2 (Skidtubes) 1-Deburr Fwd edge of tube 2-Remove ridge on inside of Fwd edge of tube as per Dwg
 Descriptions: D4361 3-Weld Fwd Cap as per Dwg D4361 Use aluminum rod. Grind D2647 to fit as required. 5-Cut aft end to length as
 per dwg D4361 6-Drill pilot holes using drill Jig DT8168A and DT8168B and DT8025. Most Fwd wearplate hole to be laid
 out manually. 8-Open Aft Cap Hole using # Drill Bit 9-Open holes for Tow Ring to Ø0.625" as per Dwg D4361, D4361-041
 Drilling Detail 10-Remove inner indexing ridge on aft end of skidtube as per Dwg D4361 11-Deburr and Blow out all chips
 form inside the tube

- 115 - QC5 (QC5- Inspect part completeness to step on W/O)
 120 - HandFinish1 (Chemical Conversion Coat per QSI005 4.1)
 125 - QC7-1 (QC7-Inspect Chemical Conversion Coat)
 130 - Skidtubes-2 (Skidtubes) 1-Open holes to finished size as per Dwg D4361, D4361-041 Drilling Detail 2-Countersink crossbolt spacer holes as per Dwg D4361 3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer. 4-Bond D2654-5 web in place as per QSI 015, Ensure holes line up. Allow 12 Hrs. cure time
 140 - QC5 (QC5- Inspect part completeness to step on W/O)
 150 - Skidtubes-2 (Skidtubes) 1-Prep per QSI 005 and Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D4361. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod. 2-Grind welds flush as per Dwg D4361. 3-Counterbore 5/16" x 0.750" deep as per Dwg D4361. Deburr 4- Install nut plate as per dwg
 170 - QC10 (QC10- Inspect visual per QSI004- ground welds)
 180 - QC5 (QC5- Inspect part completeness to step on W/O)
 190 - HandFinish2 (Pressure Wash per QSI005 4.3/ Clean and remove all markings)AND ALODINE ONLY AS PER QSI005
 200 - Powdercoat1 (White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum) Make sure Nut Plate Thread is protected using paint screw, and mask GHW studs.
 210 - QC3 (QC3- Inspect Part Finish)
 220 - HandFinish4 (Assemble as per dwg) 1-Install wearplates as per dwg D4361. 2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D4361. Clean excess adhesive 6-Wing Walk as per Dwg D4361-041 and QSI 005 4.4
 230 - QC3 (QC3- Inspect Part Finish)
 240 - QC5 (QC5- Inspect part completeness to step on W/O)
 245 - DC (Document Control)Photocopy bluefile and create labels per PPP D206-642-351 CHG001
 250 - Packaging3-1 (Identify as per dwg & Stock Location:_____ Identify and pack for shipping as per PPP D206-642-351
 260 - QC21 (QC21- Final Inspection - Work Order Release)

M138940 START: 10:55 TEMP: 320° FINISH: 11:25

Job BOM					068541
Part / Item	Component Name	Quantity	Operation	Container	
D2620	Skidtube, 206 Skidtube	1 pcs (1 ea)	110-Skidtubes - 1		SI50650
D2647	Cap	1 pcs (1 ea)	110-Skidtubes - 1		SI038805
D2654-5	Web	1 pcs (1 ea)	130-Skidtubes - 2 - B4B		SI127362
D2649	Cross Bolt Spacer	23 pcs (23 ea)	150-Skidtubes - 2 - B4B		SI506881
AN3-36A	Bolt	9 Ea (9 ea)	220-Handfinish - 4-1-Assembly-B4B		SI52651
CCR264SS3-3	Cherry Rivet	2 Ea (2 ea)	220-Handfinish - 4-1-Assembly-B4B		FMI137622
CR3212-43	Cherry Rivet	2 Ea (2 ea)	220-Handfinish - 4-1-Assembly-B4B		FMI137886-0
D2646	Aft Cap	1 pcs (1 ea)	220-Handfinish - 4-1-Assembly-B4B		SI148372
D2651-1	Plug	4 pcs (4 ea)	220-Handfinish - 4-1-Assembly-B4B		SI51545
D2651-3	O-Ring	4 pcs (4 ea)	220-Handfinish - 4-1-Assembly-B4B		SI077352
D2680-041	Nut Plate	1 pcs (1 ea)	220-Handfinish - 4-1-Assembly-B4B		SI148376
D3873-1	Bushing	18 pcs (18 ea)	220-Handfinish - 4-1-Assembly-B4B		SI54066
D4364-041	Run-on Landing Wearplate Fwd	1 pcs (1 ea)	220-Handfinish - 4-1-Assembly-B4B		SI070297
D4364-043	Run-on Landing Wearplate Aft	1 pcs (1 ea)	220-Handfinish - 4-1-Assembly-B4B		SI070290
MS21042-3	Nut use MS21042L3 per QSI 017	9 Ea (9 ea)	220-Handfinish - 4-1-Assembly-B4B		SI148372
MS27039-1-08	Screw	2 Ea (2 ea)	220-Handfinish - 4-1-Assembly-B4B		SI104017
MS27039-4-06	Screw	1 Ea (1 ea)	220-Handfinish - 4-1-Assembly-B4B		SI113792
NAS1149C0332R	Washer	9 Ea (9 ea)	220-Handfinish - 4-1-Assembly-B4B		SI14081
NAS1149D0332J	Washer	2 Ea (2 ea)	220-Handfinish - 4-1-Assembly-B4B		SI123446
NAS1149D0463J	Washer	1 Ea (1 ea)	220-Handfinish - 4-1-Assembly-B4B		SI50216

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
110-Skidtubes - 1	D2620	1	0	0
	D2647	1	16	0
130-Skidtubes - 2 - B4B	D2654-5	1	13	0
150-Skidtubes - 2 - B4B	D2649	23	69	0
220-Handfinish - 4-1-Assembly-B4B	AN3-36A	9	45	0
	CCR264SS3-3	2	283	0
	CR3212-4-3	2	114	0
	D2646	1	25	0
	D2651-1	4	149	0
	D2651-3	4	434	0
	D2680-041	1	35	0
	D3873-1	18	26	0
	D4364-041	1	1	0
	D4364-043	1	4	0
	MS21042-3	9	217	0
	MS27039-1-08	2	507	0
	MS27039-4-06	1	19	0
	NAS1149C0332R	9	5,267	0
	NAS1149D0332J	2	2,738	0
	NAS1149D0463J	1	2,677	0
Part Specifications				
Specifications could not be found.				

Plex 1/29/19 9:25 AM Dart.Hadley.Shannon



Dart Aerospace Ltd.
1270 Aberdeen St
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K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

Matte BLACK

D206-642-351
Job Sheet 189430



Part No: D206-642-351

Job Qty: 1 ea

Part Name: Replacement Skidtube, Low & High Gear, Run-on Landing Wearplates Fits LH or RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/24/19

Job Tracking No:

Due Date: 3/1/19

Created By: Jesse White

Type: SOLD

Description: Matte BLACK

Note: DWG D4361-041 REV A, IIN-D206-642 REV Q SHEETS 29-30 IPP REV:A NEW ISSUE 12-07-09 JLM
VERIFIED BY:EC

Ship Via:

Bill of Materials

SK

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☒ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042) INSP 12 <i>19/2/24</i>	
Description Work Order Deviation		Disposition		Completed By	
<i>low ring hole Drilled at 0.641"</i> <i>Both sides instead of 0.625"</i>		<i>Acceptable. Ref. D3274, Ø0.640</i> <i>appropriate size for low ring.</i>			
Root Cause		FAULT CATEGORY			
Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
		Other/Details:			

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		3/1/19	0.00	0.00	Start Up Skid tubes-1		
110	Skid tubes	1 pcs		3/1/19	0.00	3.26	Skid tubes-2		
115	QC	1 pcs		3/1/19	0.00	0.00	QC5		
120	HandFinish	1 pcs		3/1/19	0.00	0.83	HandFinish1		
125	QC	1 pcs		3/1/19	0.00	0.00	QC7-1		
130	Skid tubes	1 pcs		3/1/19	0.00	3.26	Skid tubes-2		
140	QC	1 pcs		3/1/19	0.00	0.00	QC5		
150	Skid tubes	1 pcs		3/1/19	0.00	3.26	Skid tubes-2		
170	QC	1 pcs		3/1/19	0.00	0.00	QC10		
180	QC	1 pcs		3/1/19	0.00	0.00	QC5		
190	HandFinish	1 pcs		3/1/19	0.00	0.83	HandFinish2		
200	Powdercoat	1 pcs		3/1/19	0.00	0.23	Powdercoat1	MATK BLACK	
210	QC	1 pcs		3/1/19	0.00	0.00	QC3		
220	HandFinish	1 pcs		3/1/19	0.00	0.83	HandFinish4		
230	QC	1 pcs		3/1/19	0.00	0.00	QC3		
240	QC	1 pcs		3/1/19	0.00	0.00	QC5		
245	DC	1 pcs		3/1/19	0.00	0.00	DC		
250	Packaging	1 pcs		3/1/19	0.00	0.00	Packaging3-1		
260	QC21-FG	1 Ea		3/1/19	0.00	0.00	QC21		

Part Op 110 - 1-Deburr Fwd edge of tube 2-Remove ridge on inside of Fwd edge of tube as per Dwg D4361 3-Weld Fwd Cap as Descriptions: per Dwg D4361 Use aluminum rod. Grind D2647 to fit as required. 5-Cut aft end to length as per dwg D4361 6-Drill pilot holes using drill Jig DT8168A and DT8168B and DT8025. Most Fwd wearplate hole to be laid out manually. 8-Open Aft Cap Hole using # Drill Bit 9-Open holes for Tow Ring to Ø0.625" as per Dwg D4361, D4361-041 Drilling Detail 10-Remove inner indexing ridge on aft end of skid tube as per Dwg D4361 11-Deburr and Blow out all chips from inside the tube 130 - 1-Open holes to finished size as per Dwg D4361, D4361-041 Drilling Detail 2-Countersink crossbolt spacer holes as per Dwg D4361 3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer. 4-Bond D2654-5 web in place as per QSI 015, Ensure holes line up. Allow 12 Hrs. cure time 150 - 1-Prep per QSI 005 and Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D4361. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod. 2-Grind welds flush as per Dwg D4361. 3-Counterbore 5/16" x 0.750" deep as per Dwg D4361. Deburr 4- Install nut plate as per dwg 190 - AND ALODINE ONLY AS PER QSI005 200 - Make sure Nut Plate Thread is protected using paint screw, and mask GHW studs. 220 - 1-Install wearplates as per dwg D4361. 2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D4361. Clean excess adhesive 6-Wing Walk as per Dwg D4361-041 and QSI 005 4.4 245 - Photocopy bluefile and create labels per PPP D206-642-351 CHG001 250 - Identify and pack for shipping as per PPP D206-642-351

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2620	Skidtube, 206 Skidtube	1 pcs (1 ea)	90-Start up Operation	
D2647	Cap	1 pcs (1 ea)	90-Start up Operation	
D2654-5	Web	1 pcs (1 ea)	130-Skidtubes	
D2649	Cross Bolt Spacer	23 pcs (23 ea)	150-Skidtubes	
AN3-36A	Bolt	9 Ea (9 ea)	220-HandFinish	
CCR264SS3-3	Cherry Rivet	2 Ea (2 ea)	220-HandFinish	
CR3212-4-3	Cherry Rivet	2 Ea (2 ea)	220-HandFinish	
D2646	Aft Cap	1 pcs (1 ea)	220-HandFinish	
D2651-1	Plug	4 pcs (4 ea)	220-HandFinish	
D2651-3	O-Ring	4 pcs (4 ea)	220-HandFinish	
D2680-041	Nut Plate	1 pcs (1 ea)	220-HandFinish	
D3873-1	Bushing	18 pcs (18 ea)	220-HandFinish	
D4364-041	Run-on Landing Wearplate Fwd	1 pcs (1 ea)	220-HandFinish	
D4364-043	Run-on Landing Wearplate Aft	1 pcs (1 ea)	220-HandFinish	
MS21042-3	Nut use MS21042L3 per QSI 017	9 Ea (9 ea)	220-HandFinish	
MS27039-1-08	Screw	2 Ea (2 ea)	220-HandFinish	
MS27039-4-06	Screw	1 Ea (1 ea)	220-HandFinish	
NAS1149C0332R	Washer	9 Ea (9 ea)	220-HandFinish	
NAS1149D0332J	Washer	2 Ea (2 ea)	220-HandFinish	
NAS1149D0463J	Washer	1 Ea (1 ea)	220-HandFinish	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2620	1	3	0
	D2647	1	16	0
130-Skidtubes	D2654-5	1	13	0
150-Skidtubes	D2649	23	81	0
220-HandFinish	AN3-36A	9	45	0
	CCR264SS3-3	2	283	0
	CR3212-4-3	2	114	0
	D2646	1	25	0
	D2651-1	4	149	0
	D2651-3	4	434	0
	D2680-041	1	35	0
	D3873-1	18	50	0
	D4364-041	1	1	0
	D4364-043	1	4	0
	MS21042-3	9	221	0
	MS27039-1-08	2	507	0
	MS27039-4-06	1	19	0
	NAS1149C0332R	9	3,307	0
	NAS1149D0332J	2	2,744	0
	NAS1149D0463J	1	2,713	0

Part Specifications

Specifications could not be found.

Plex 1/24/19 9:27 AM dart.white.jesse

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____ _____ _____					

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X		D4361-041	SKIDTUBE ASSY
	X	D4361-043	SKIDTUBE ASSY
1	1	D2600-1-160	EXTRUSION
1		D2654-5	WEB
	1	D2654-7	WEB
1	1	D2646	AFT CAP
1	1	D2647	CAP
23	26	D2649	CROSS BOLT SPACER
4	8	D2651-1	PLUG
4	8	D2651-3	O-RING
1	1	D2680-041	NUT PLATE
18	20	D3873-1	BUSHING
1		D4364-041	FWD WEARPLATE ASSY
1		D4364-043	AFT WEARPLATE ASSY
	1	D4366-041	FWD WEARPLATE ASSY
	1	D4366-043	AFT WEARPLATE ASSY
9	10	AN3-36A	BOLT
9	10	NAS1149C0332R	WASHER (OR AN960C10L)
9	10	MS21042-3	NUT
2	2	NAS1149D0332J	WASHER (OR AN960JD10L)
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	MS27039-1-08	SCREW
1	1	MS27039-4-06	SCREW
1	1	NAS1149D0463J	WASHER (OR AN960JD416)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2654-5/-7 WEB
-POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER
DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D4361-041 = 37.5 LBS
D4361-043 = 44.3 LBS
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE
GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE.
A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

RELEASED
R 2011-09-12

A	NEW ISSUE	SC	11.05.05
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	9	DRAWING NO.	REV. A
MFG. APPR.	E	D4361	SHEET 1 OF 4
APPROVED	10	TITLE	SCALE
DE APPR.	H	206L/407 SKIDTUBE ASSEMBLIES	NTS
DATE	11.05.05	COPYRIGHT © 2011 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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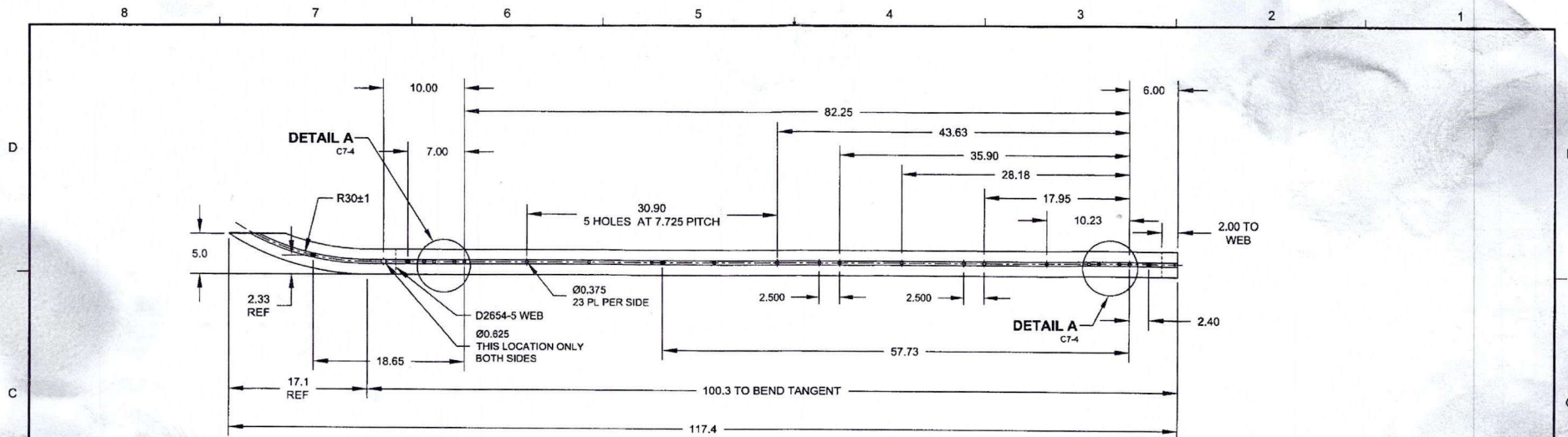


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

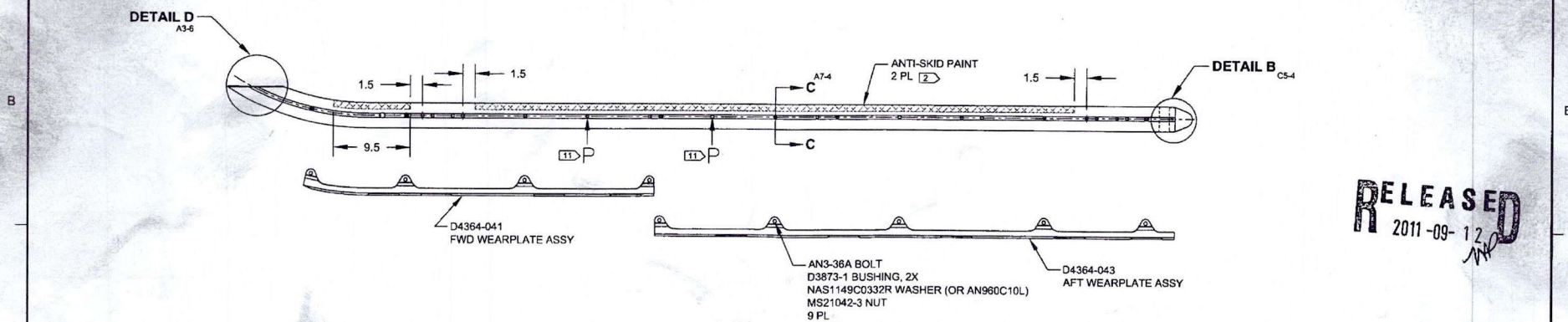
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



D4361-041 BENDING/DRILLING DETAIL



D4361-041 ASSEMBLY/FINISHING DETAIL

RELEASED
2011-09-12

DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	JP	DRAWING NO.	REV. A
MFG. APPR.	JP	D4361	SHEET 2 OF 4
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	206L/407 SKIDTUBE ASSEMBLIES	NTS
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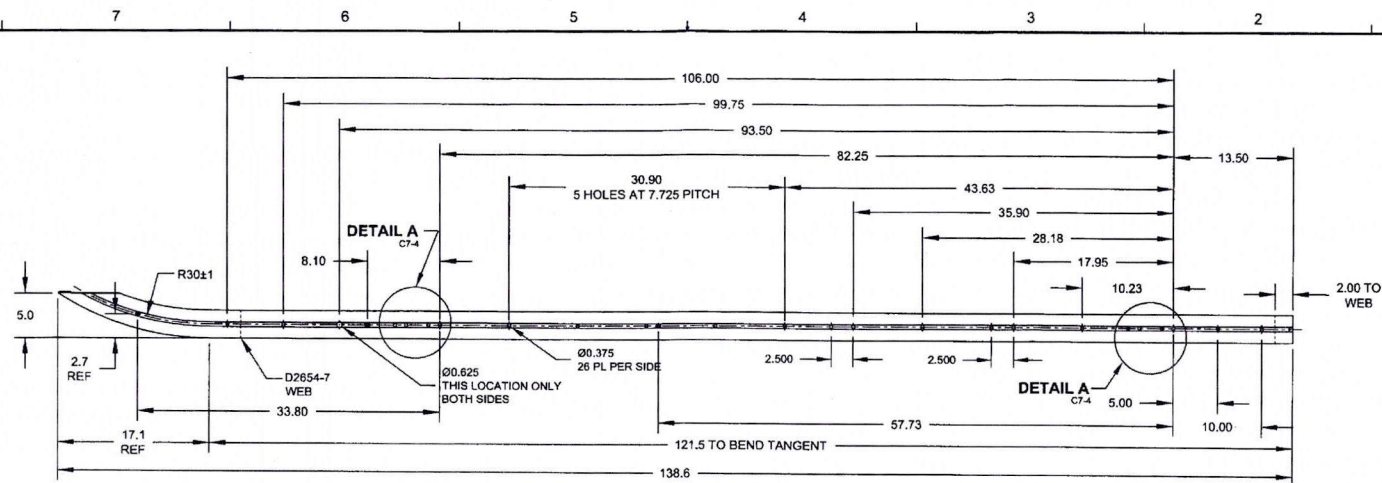


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

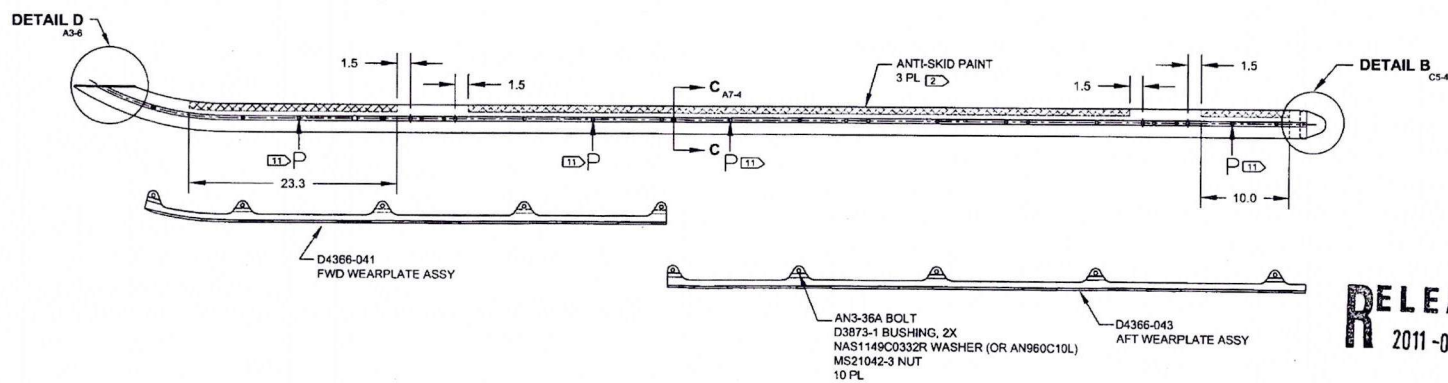
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



D4361-043 BENDING/DRILL DETAIL



D4361-043 ASSEMBLY/FINISHING DETAIL

DESIGN	SC	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	97	DRAWING NO.	REV. A
MFG. APPR.	8	D4361	SHEET 3 OF 4
APPROVED	140	TITLE	SCALE
DE APPR.	#	206L/407 SKIDTUBE ASSEMBLIES	NTS
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2011-09-12
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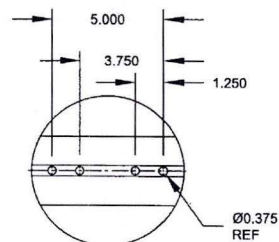


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

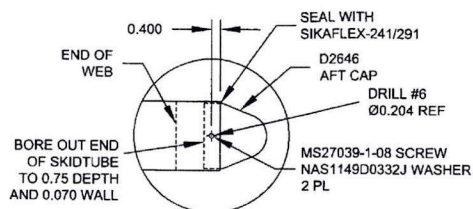
Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QS1042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



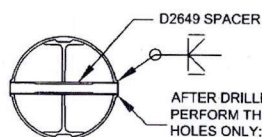
DETAIL A

C3-2
D7-2
C3-3
D6-3



DETAIL B

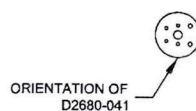
B2-2
B1-3



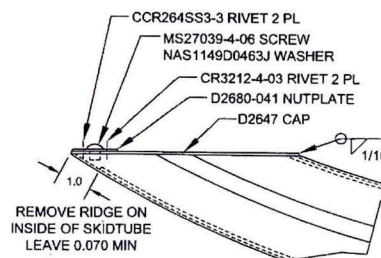
- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORE TO Ø0.313 X 0.75 DP

SECTION C-C
FOR Ø0.375 HOLES ONLY

B4-2
B5-3



ORIENTATION OF
D2680-041



DETAIL D

B7-2
B7-3

DETAIL D NOTES:

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
2011-09-12

DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	JP	DRAWING NO.	REV. A
MFG. APPR.	JP	D4361	SHEET 4 OF 4
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	206L/407 SKIDTUBE ASSEMBLIES	NTS
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042) _____	
Description Work Order Deviation		Disposition		Completed By	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					